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# **Product and Packaging Innovation**

## **Attitudes, Behaviours, and Strategies for Sustainable Packaging**

**Annual Report 26 July 2018**

**Authors: Ben Mitchell, Dr Martina Topić, Olga Munroe**

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# Product & Packaging Innovation Annual Report

## Introduction: The current discourse on packaging

Last year, The Retail Institute held a members' Special Interest Group during Interpack in Dusseldorf. Our focus was on 'Understanding & Incorporating Consumer & Retailer Needs when Developing Packaging', a topic which brought together insights into both consumer behaviour and corporate social responsibility (CSR). The discussion naturally led to the problem of packaging and the environment and centred on the issue of consumers' understanding of the environmental credentials of each pack. In particular, the question was raised of how to increase understanding and who should have responsibility for that. We left Dusseldorf with a new determination to learn more about consumer attitudes to the environment and its implications for packaging.

Since then, the issue has grown immensely in public consciousness, mostly as a result of greater awareness of ocean plastic pollution through programmes such as Blue Planet and campaign organisations such as the Ellen Macarthur Foundation. The impact has been tremendous and has been felt by the retail supply chain as retailers scramble to establish their own responses to the call for an end to single use plastics. The way that a programme such as Blue Planet appears to have influenced public opinion demonstrates the continuing power of particular media institutions. Our use of media is currently in an era of fundamental long-term change and this is shaping the way that people form their views and attitudes.

To that end, we conducted a survey on a representative sample of 1000 adults residing in the UK, and we asked a number of questions in regards to their recycling habits, views on packaging and environmental issues, as well as media consumption and the extent to which media influences their views on the environment.

With regard to the environment, our survey findings show that the BBC is still comfortably the most trusted information source across generations, with other TV stations following closely. However, the press is still trusted by over 20 per cent of the population (chart below).

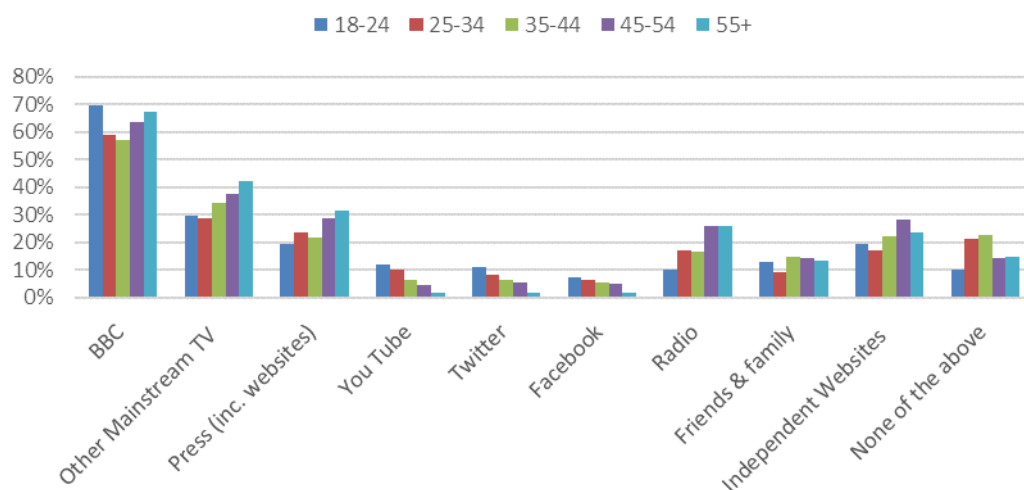
### *The BBC is the most trusted source on environmental issues*

These findings correspond with general trends in the UK with TV (and BBC in particular being the most trusted media) as opposed to press, which has seen a steady decline in trust due to numerous scandals with transparency of reporting. Nevertheless, the UK press is least trusted in the whole EU.<sup>1</sup>

This reflects both the corporation's leading role as provider of news and figures on which media sources are trusted on political and social issues. For other sources, although the percentages are much lower, it is notable that older people are more likely to trust the press and other mainstream media while social media is trusted by more young people (though generally much less than other sources). This could offer some clues about how people will use information in the future to form their views and, ultimately, how they choose to live their lives.

In this report, we present some initial findings from our survey, which seeks to provide a greater understanding of consumer attitudes and behaviours with regard to packaging and the environment. It shows that ocean plastic pollution is now the leading environmental issue in the minds of consumers and a public debate is occurring with strong calls for stopping the use of plastics by retailers.

Sources trusted for environmental issues, by age



<sup>1</sup> <https://www.pressgazette.co.uk/survey-finds-that-uk-written-press-is-by-some-way-the-least-trusted-in-europe/>



Image courtesy of Guardian, Ekoplaza, Plastic free isle, Netherlands (Amsterdam)



Such calls have been echoed by government in its 25-year plan to improve the environment and the Prime Minister's attack on "the scourge of waste plastic". At the time of writing, there continues to be daily news stories on the issue with, for example, consumer group Which? announcing that 29 per cent of supermarket packaging is not recyclable and a survey for campaign group A Plastic Planet which found that nine out of ten people want supermarkets to have a plastic free aisle.<sup>2,3</sup>



Absolutely sickening footage from the Caribbean. The lunacy of unfettered plastic consumption is now more obvious than ever. A #PlasticFreeAisle is a non-negotiable in the fight to turn this around.

While all of the major supermarkets have responded in some way to the crisis – either by pledging to eliminate nearly all plastic packaging or at least promising to look for the most environmentally sound solution for each packaging product – there is also some concern in the industry that calls for eliminating plastic is a simplistic response that could have serious environmental consequences. Some argue that modern lifestyles around the world mean that the demand for food to be provided in a convenient, safe manner necessitates the use of plastics as the only viable solution. Eliminating plastic could cause a morally indefensible and monumental increase in food waste.

There is also frustration within the packaging industry at the prevalence of distorted, emotional arguments to the detriment of evidence which demonstrates the benefits of plastic. Lubna Edwards, Global Sustainability Director of Klöckner Pentaplast has written recently that "The environmental, social and economic impacts of food waste far exceed the same for plastic packaging, which is specifically designed to protect products using minimum resources".<sup>4</sup> Inconsistent human behaviour is also making it hard to make positive environmental changes. Littering and the rejection of eco-friendly packs (for example, falls in sales following a switch from black to clear plastic trays) are cited as barriers that will not be easy to overcome.

Lubna Edwards also noted problems in the UK's recycling infrastructure. With plastic waste considered as a valuable raw material, greater consistency between local authorities and provision for consumers to recycle at home is essential to improve recycling rates in the UK.

However, plastic-free campaigners argue that the plastics problem is too important to allow these reasons to prevent the change that is needed. They say that the solution does not lie in improvements to waste collection and recycling and it is not about bottle schemes to ensure that more is recycled. A Plastic Planet founder, Sian Sutherland, has argued that "For years the onus has been placed on recycling to solve the plastic crisis we are facing but it simply isn't a viable solution" and that "No matter how many times a plastic bottle is re-used or recycled it will almost always end up in the environment sooner or later".<sup>5</sup> Campaigners also claim that plastics are unhealthy and that corporations are not seriously interested in making changes. Therefore, the consumer must lead, with the help of supermarkets introducing plastic-free aisles.

Whichever side of the argument one may find themselves on, the role of the consumer is clear even if our understanding of them isn't. Questions are raised of whether consumers can truly lead change on the scale that is needed to eliminate ocean plastic pollution. How important actually is the environment to people when they are making decisions about what to buy and how to dispose of waste? Does their behaviour match the views they express? How much do they need to change and what would influence them to do that? What do they really want?

This report attempts to answer those questions. There are, of course, many complexities to human behaviour and our survey findings are best judged alongside other research which tackles the issues with different nuances and perspectives. We provide some of those additional insights here and hope that it helps you as you continue to engage in this lively and important global debate.

<sup>2</sup> <https://www.which.co.uk/news/2018/07/up-to-29-of-supermarket-packaging-is-not-recyclable-which-finds/>

<sup>3</sup> <https://www.independent.co.uk/environment/plastic-free-aisle-supermarkets-products-packages-survey-groceries-nine-ten-people-uk-a7859066.html>

<sup>4</sup> <https://www.raconteur.net/sponsored/recycling-plastic-myths>

<sup>5</sup> A Plastic Planet [twitter.com/plastic\\_planet](https://twitter.com/plastic_planet)

# Consumer Attitudes to the Environment

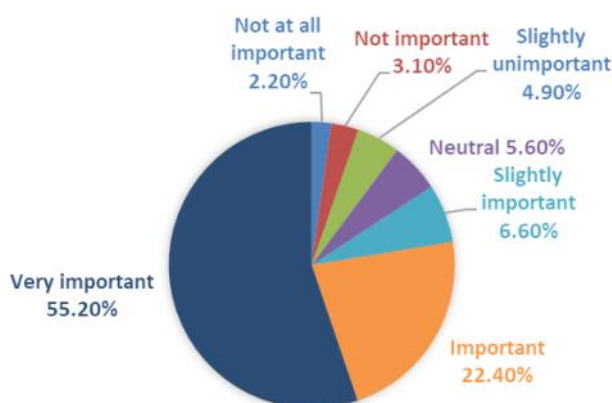
There can often be a certain amount of scepticism when it comes to people's attitudes to sustainability. Global environmental impact is often an issue which many find difficult to perceive when it is not always immediately tangible in daily life. There is also a suggestion that many may demonstrate pro-environmental attitudes but do not match them in the way they behave as workers, travellers or consumers. Previous research has suggested that this 'compassion without action' could be due to a lack of fundamental clear definition of sustainability which means that it is unclear how to develop policies and practices that lead to a change in both attitudes and behaviours.<sup>6</sup> In addition, 'consumerism', is charged as a main cause of environmental and social detriments, although others may argue that the problem is not consumption, it is "life balances and 'work to spend culture'" which "is influencing the lack of sustainable living in our societies".<sup>7</sup>

Consequently, research which has focused on young consumers (generation Y) has found evidence that "the practice of this group was far from their compassionate

beliefs about how to create sustainability and the creation of sustainable consumption".<sup>8</sup>

Our own survey first sought to establish the importance of various environmental issues in the minds of consumers. Although there is not comparable data from previous years, the results suggest that the recent media coverage has had a considerable impact. Ocean plastic pollution was the issue that inspired the most responses of 'very important' and was the most important issue across all surveyed in terms of the highest percentage (78%) of either 'very important' or 'important' responses. Furthermore, when looking at responses according to age group, ocean plastic pollution had the highest importance (again, 'very important and 'important' combined) among all but one of the five age ranges used in the analysis.

The 25-34 years old age group had a slightly higher proportion of important/very responses for deforestation compared with ocean plastic pollution (table 1). Table 1 gives the percentage of each age group who classed each issue as important or very important.



***Ocean plastic pollution is recognised as the main environmental problem across generations***

## Ocean plastic pollution

Table 1: the most important 3 environmental issues, by gender and age group

Demographic	Most important	Second most important	Third most important
18-24	Ocean plastic pollution – 67%	Global warming – 66%	Species extinction – 65%
25-34	Deforestation – 66%	Ocean plastic pollution – 66%	Air pollution – 63%
35-44	Ocean plastic pollution – 72%	Deforestation – 68%	Species extinction – 67%
45-54	Ocean plastic pollution – 82%	Deforestation – 81%	Species extinction – 79%
55+	Ocean plastic pollution – 86%	Deforestation – 83%	Air pollution – 79%
Male	Ocean plastic pollution – 71%	Deforestation – 68%	Air pollution – 65%
Female	Ocean plastic pollution – 84%	Deforestation – 82%	Air pollution – 79%
All	Ocean plastic pollution – 78%	Deforestation – 75%	Air pollution – 72%

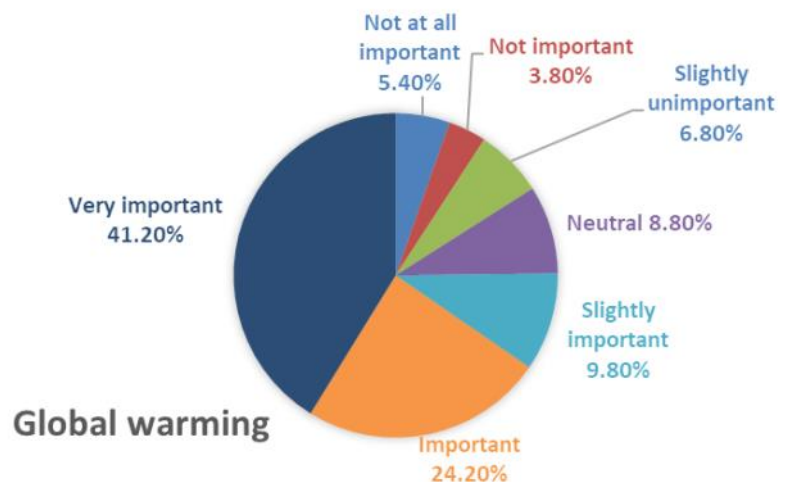
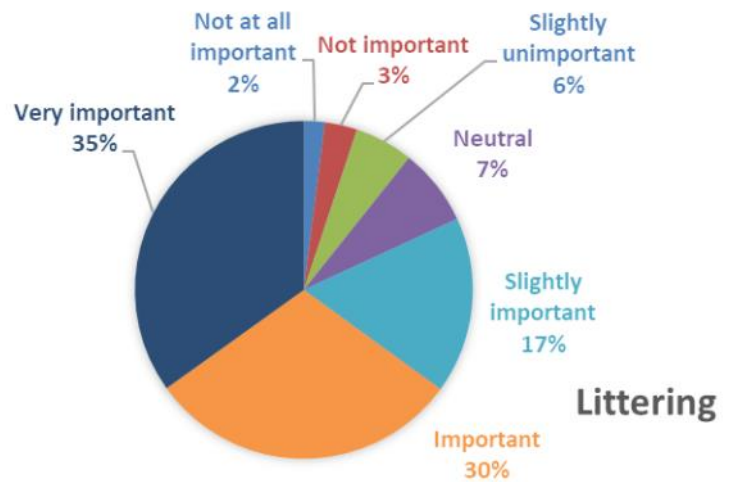
6 Hume, M. (2010) 'Compassion without action: Examining the young consumers consumption and attitude to sustainable consumption', Journal of World Business, 45, pp.385-394.

7 Hume (2010), p.387

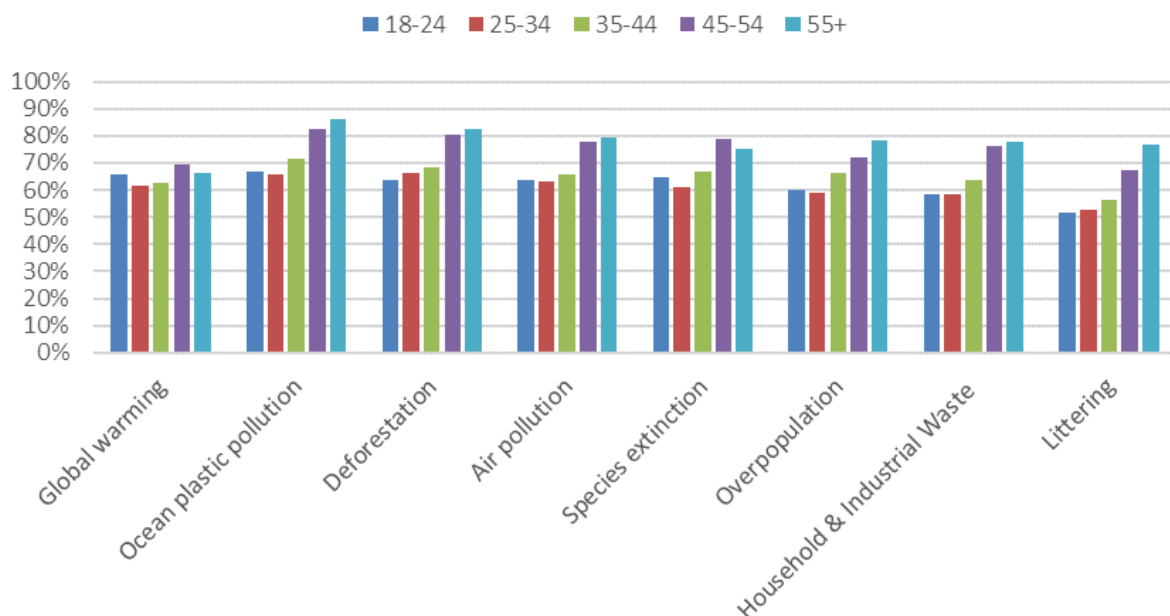
8 Hume (2010), p.392

When the data is broken down to categories, it becomes apparent that consumers assign importance to global warming and littering when directly asked (see facing); however, when asked to name environmental issues, as per table 1, they recognise ocean pollution due to plastic, as often advocated by the media. Nevertheless, when asked directly about ocean plastic pollution importance, they recognise it in higher percentages than other issues. The responses showed that all the environmental issues are seen as to some extent important to most people with at least 75% saying that each issue was important in some way. It is worth noting the slight variation in strength of feeling as the oldest two age groups (45-54 years and over 55s) tended to have higher percentages of important or very important responses. In particular, 86% of over 55s said that ocean plastic pollution was either important or very important.

**86% of over 55s said that ocean plastic pollution was either important or very important.**



Importance of environmental issues, by age (Important and very important)



8 Rokka, J. and Uusitalo, L. (2008) 'Preference for green packaging in consumer product choices – do consumers care?', International Journal of Consumer Studies, 32, pp. 516-525.

9 Bech-Larsen, T. (1995) Consumers attitudes to food packaging – with a focus on purchase decisions. Dissertation, Aarhus School of Business, Denmark.



## Perceptions of packaging

What do these attitudes mean for packaging? The answer may depend on how the question is asked, as different perspectives emerge according to the research method chosen. For example, the level of abstraction can affect research results. When consumers' general attitudes to packaging are surveyed, there is a tendency to associate it with negative environmental effects, whereas when asked about a specific package, consumers will be more positive about a pack's functional characteristics.<sup>9,10</sup> There are also contextual factors to consider such as the product category or the materials used in the packaging. In addition, research approaches such as Kano analysis can be used to ascertain which packaging attributes have the status of a 'must be' requirement among consumers, an approach that recognises that certain factors may only be recognised as essential if it is removed. For example, previous Kano analyses has indicated that the protective function of packaging as a 'must-be' quality,<sup>11</sup> even though few consumers had mentioned it spontaneously. This provides a better understanding of the hidden needs of consumers and a deeper understanding of the role of environmental features in consumer decisions.

Such techniques have also elicited findings that demonstrate a lack of awareness among consumers of the environmental status of certain packaging, meaning that "consumer choices can unintentionally counteract environmentally sustainable intentions".<sup>12</sup> Lindh et al's research on consumer packaging perceptions has also found a tendency to favour convenience attributes over others (including environmental), although it is important to remember that convenience is partly concerned with ease of recycling. Another distinction identified in the same research is the difference in view before and after consumption. The authors state that "Most consumers regard packaging as being integrated with the product, as long as the product is not consumed. But as soon as the package is empty, it is instead regarded as waste".<sup>13</sup>

Another concern is how consumers perceive the design of sustainable packaging and what information they require that will inspire their confidence. Part of the problem, it is argued, is that not all consumers may be familiar with the term 'sustainable packaging' or have different interpretations of what it means. Research into the communication of ecological content on sustainable packaging<sup>14</sup> shows that consumers' trust in the messages communicated through sustainable packaging can be crucial in the buying process and confidence in what

sustainable packaging communicates can translate into a positive attitude toward the product. Although it is suggested that sustainable packaging is of little importance in the buying decision process, most of those who took part in this research expected the importance of sustainability to increase in the long term (research was published in 2016). They also expressed a willingness to change their choice of product to one with sustainable packaging if the messages displayed on such packaging were credible.

The recyclability of packaging and the safety (in terms of consumers' health) of the materials were considered to be the most desirable information. The research also approached the importance of packaging attributes question from a slightly different angle by asking what modifications to the design of sustainable packaging (inferior appearance, worse durability, shorter shelf life, or inferior functionality) they would be willing to accept. Consumers were found to be reluctant to accept any decrease in quality but could cope with a deterioration in appearance and a shorter shelf life. What they were not prepared to accept was any deterioration in the functionality of sustainable packaging. This supports previous research which suggested that functional packaging characteristics influence consumers' purchasing decisions while environmental characteristics have little practical importance.<sup>15</sup>

A major UK-based survey in recent years was conducted by WRAP (Waste & Resources Action Programme), looking into consumer attitudes to food waste and food packaging.<sup>16</sup> It found that many consumers did not recognise that packaging protects food in the home and actually took the contrary view that products will spoil more quickly if they are kept in the packaging. Those (in the minority of) consumers who did recognise that packaging can keep products fresher for longer, had significantly less negative views of packaging in general.

This finding is significant to the environmental discourse as failure to recognise the positive aspects of packaging makes any negative views on recyclability or use of natural resources without any redemption in the eyes of many consumers. However, WRAP's research also recognised the importance of context to perceptions on packaging. It found that within a shopping context in stores, packaging was a low priority and played a supporting and practical role (for example, re-closability) in product choice. Once set within a framework of environmental concern, however, a different mindset is triggered and attitudes become more negative.

9 Rokka, J. and Uusitalo, L. (2008) 'Preference for green packaging in consumer product choices – do consumers care?', *International Journal of Consumer Studies*, 32, pp. 516-525.

10 Bech-Larsen, T. (1995) *Consumers attitudes to food packaging – with a focus on purchase decisions*. Dissertation, Aarhus School of Business, Denmark.

11 Löfgren M, Witell L. (2005) 'Kano's theory of attractive quality and packaging', *Quality Management Journal*, 12(3), pp. 7-20

12 Lindh, H., Olsson, A. and Williams, H. (2016) 'Consumer perceptions of food packaging: Contributing to or counteracting environmentally sustainable development?' *Packaging Technology and Science*, 29, pp. 3-23.

*references continue on next page*

Specifically, around four fifths of respondents saw packaging as a major environmental problem and 57% saw it as wasteful and unnecessary.

WRAP's report also found that concern about packaging reduces in response to more information. Consumer attitudes seemed to shift when shown positive (factually correct) statements about packaging. The ability to recycle was a particularly important factor which could depend on either materials or local collection arrangements. The implication of this was that retailers, food and packaging manufacturers and trade associations need to find the best ways of informing consumers about food labelling and packaging innovations to raise awareness of the benefits and encourage consumers to improve their behaviours through, for example, buying the right pack size and looking more closely at labels.<sup>17</sup>

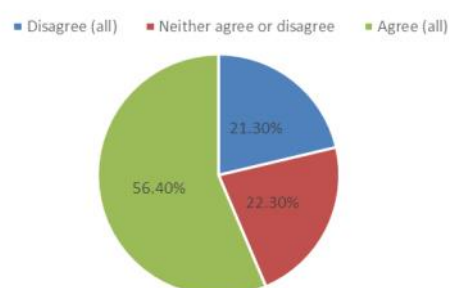
## Packaging, shopping choices and willingness to pay more

Our survey sought to build on these previous research findings by looking at current attitudes to packaging in relation to the environment and to understand what might be influencing those attitudes. We asked whether recent media coverage of plastics in the oceans has influenced people's views on either packaging or their shopping choices. A significant proportion either agreed or strongly agreed that the recent media campaign did influence their views. More than a third (36%) said that it influenced their views on packaging and more than a quarter (28%) said that it influenced their shopping choices. This influence was much more reported by females with more than half (54%) saying it influenced their views on packaging and 45 per cent saying it influenced their shopping choices. More than one fifth (22%) of females surveyed strongly agreed that the media campaign had influenced their shopping choices. Although self-reported survey responses may not truly represent exactly how shopping choices have been influenced, such large numbers of people responding in this way suggests a major shift in attitudes and behaviour among consumers.

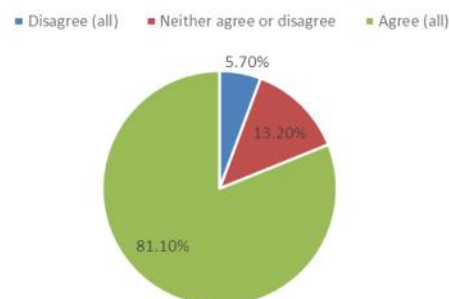
One way that shopping choices may have influenced some is in whether people are willing to pay more for a package that they know is environmentally friendly. The chart below shows that well over half (56% strongly agree, agree or slightly agree) of respondents said that they would be willing to pay a little more for an environmentally friendly package. After removing those who only slightly agreed with this, the figure

goes down to 36 per cent, which is still a large market of consumers. To put this in perspective, a previous Retail Institute survey found that between 47 and 53 per cent of consumers agreed that they would be willing to pay more for packages that preserve food, keep it fresh or ensure food safety (note: a 'slightly agree' option was not given in that survey so direct comparison is not possible). Added to general agreement that there is too much food waste, this suggests that people recognise the benefits of packaging but equally desire that it is environmentally friendly.

I would be willing to pay a little more for a more environmentally friendly package



I think there is too much food waste in the UK



## Consumers, especially women, are willing to pay more for environmentally friendly packaging

Looking at the demographic breakdown of willingness to pay more, there is some variation according to age and gender. Differences in responses by age group are more marked for all 'agree' responses in around 59 per cent of both the 45-54 and 55+ age groups agreeing that they would pay more for an environmentally friendly package. This is compared with 51-54 per cent of those in the younger three age groups.

13 Lindh et al (2016), p.4

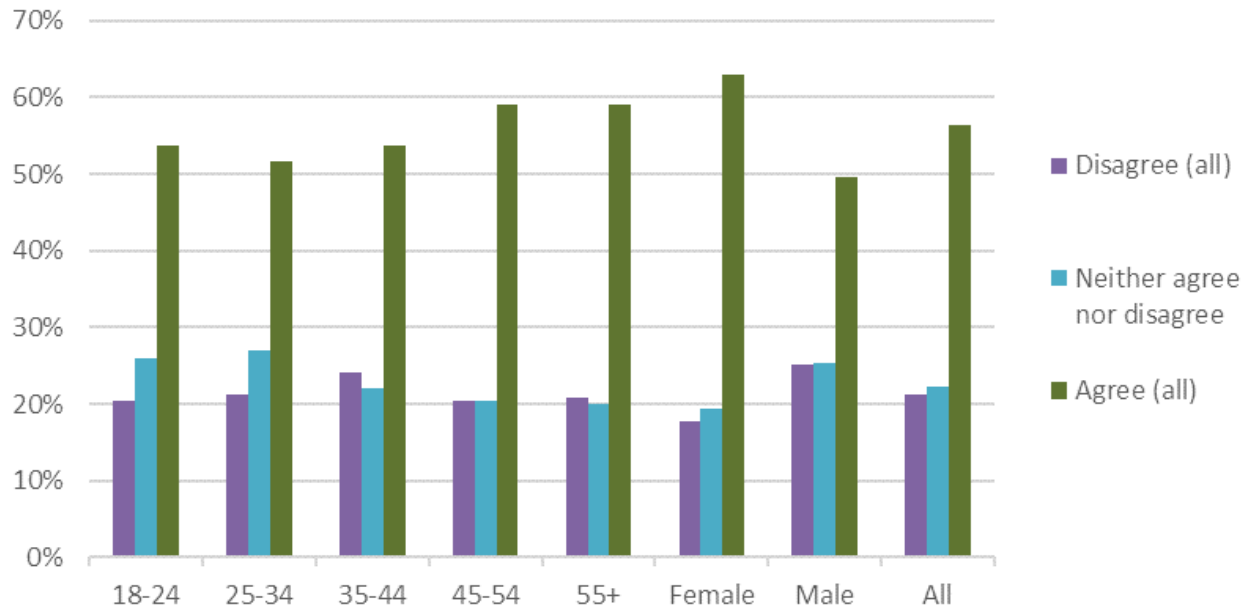
14 Jerzyk, E. (2016) 'Design and communication of ecological content on sustainable packaging in young consumers' opinions', Journal of Food Products Marketing, 22(6), pp.707-716.

15 Rokka and Uusitalo (2008), p.518

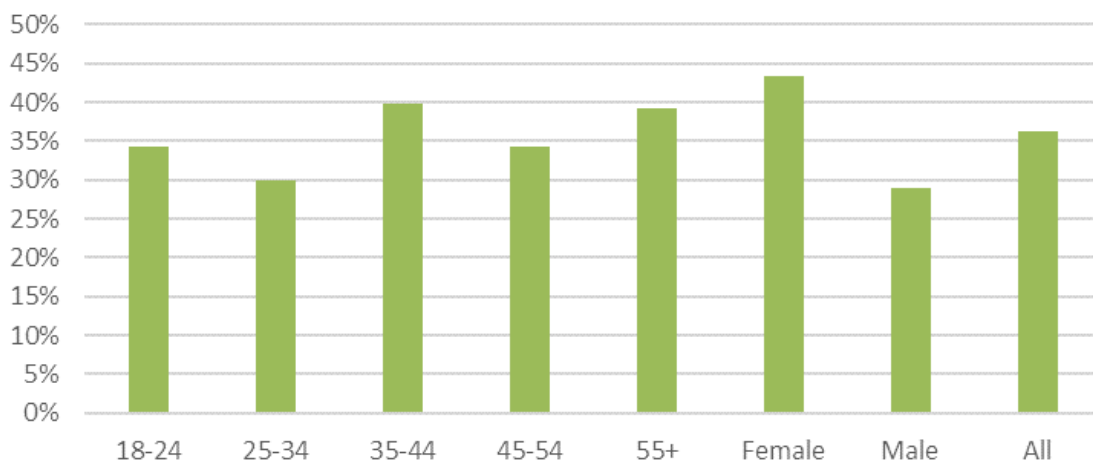
16 Plumb, A., Downing, P. and Parry, A. (2013) Consumer Attitudes to Food Waste and Food Packaging. Banbury: Waste & Resources Action Programme (WRAP).

17 Plumb et al (2013), p.6

## I would be willing to pay a little more for a more environmentally friendly package



## I would be willing to pay a little more for a more environmentally friendly package - Agree/Strongly agree, by age and gender

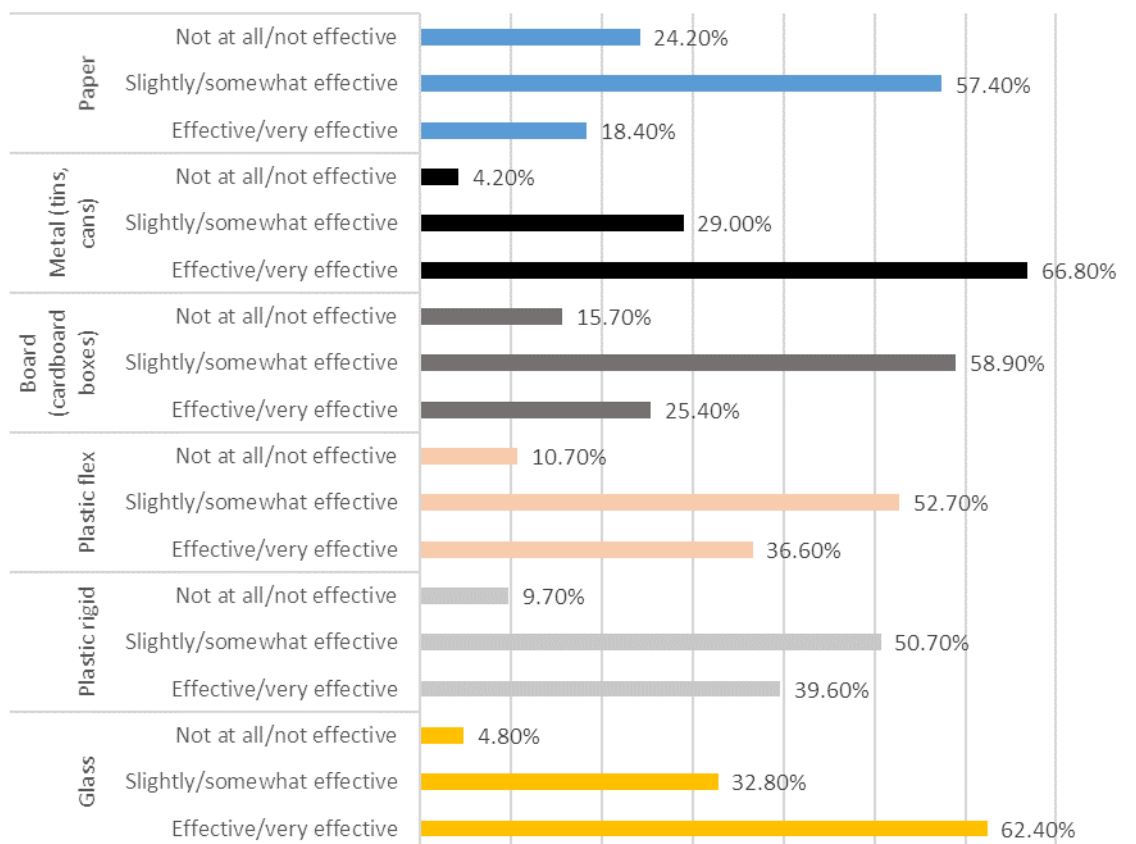


## Food preservation and environmental friendliness

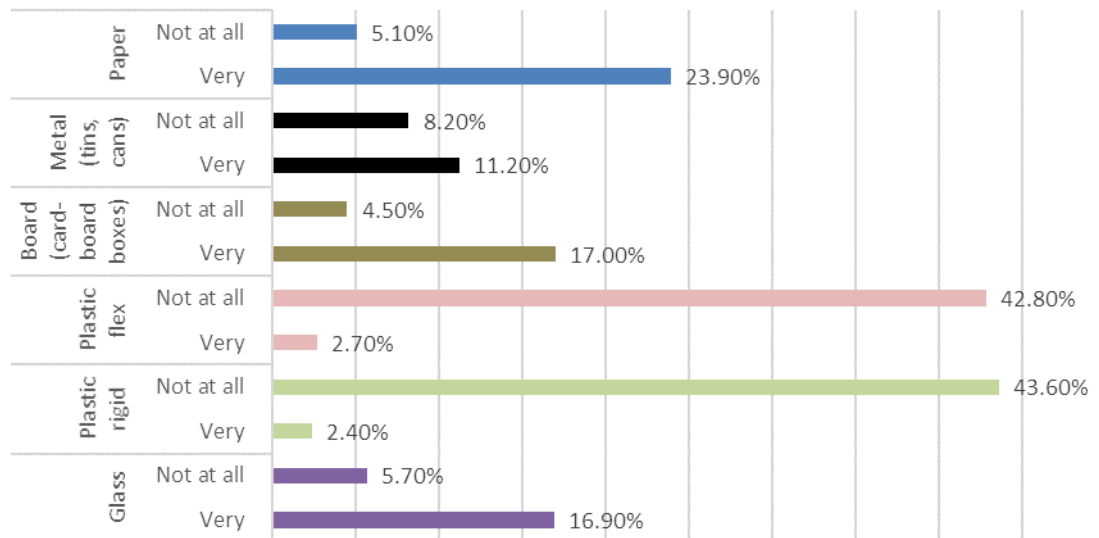
To get a more detailed understanding of how consumers perceive packaging characteristics, the survey asked for respondents' views on various packaging materials, for both preserving food and for environmental friendliness. Responses in the chart below are divided into three groups to show relative strength of feeling, either positive or negative, on this issue. The material considered by most people to be either effective or very effective at preserving food was metal, with two-thirds responding this way and just four per cent saying that it is either not effective or not at all effective. Responses are similar for glass, with 62 per cent saying they thought it was effective/very effective at preserving food. Paper was the packaging material with the lowest proportion of people (18%) who saw it as effective at preserving food and 24 per cent said it was either not effective or not at all effective.

Responses on the effectiveness of plastic (rigid and flexible) for preserving food were in between these extremes. While only around 10 per cent saw plastic as not effective, less than 40 per cent considered either flexible plastic (37%) or rigid plastic (39.6%) as either effective or very effective. The bulk of responses on plastic were in the middle three options – slightly effective, somewhat effective or neither. This suggests that although consumers do not tend to think of plastic as being ineffective at preserving food, they are either unwilling or not sufficiently aware to see it as being particularly effective. Just 8 per cent said that flexible plastic was very effective and 11 per cent said this for rigid plastic. This is compared with almost 40 per cent for metal and 35 per cent for glass.

### Effectiveness preserving food



How environmentally friendly do you think these materials are? (1= not at all environmentally friendly; 7= very environmentally friendly)



When it comes to considering the environmental friendliness of each packaging material, it is clear that there are strong negative perceptions around plastics. Respondents were asked to rate on a scale of 1 to 7 (1 = not at all environmentally friendly; 7 = very environmentally friendly) each of the six types of packaging material. More than two fifths of respondents rated either flexible (42.8%) or rigid (43.6%) plastics as not at all environmentally friendly (rating 1). This is in stark contrast to all of the other packaging materials which had less than 6 per cent of respondents choosing rating 1.

***Plastic is universally considered least environmentally friendly. Paper is rated positively, indicating little recognition of deforestation as an environmental issue***

With option 4 in the 1 to 7 scale of environmental friendliness, identified as a neutral position, options 5 to 7 could be considered as expressions of each material being perceived as being as least fairly environmentally friendly. In this regard (62%), paper, followed by cardboard (59%) and glass (53%) are all seen as being, to some extent, environmentally friendly by most people. In addition, nearly half see metal as environmentally friendly, although 30 per cent chose the neutral position and 25 per cent the least environmentally friendly options for this material. The perception of metal, however, is still much more positive

than that of plastic with just 11 per cent of respondents choosing one of option 5 to 7 and 71 per cent choosing options 1 to 3 for both flexible and rigid plastics. Full details of the responses are given in the chart on the next page.

These results suggest that much work is needed to persuade the public of the environmental benefits of various packaging materials. Although plastics are struggling most in this regard, it is noteworthy that a large proportion of people were either neutral or somewhat negative on the environmental friendliness of both metal and glass. The reasons for this are unclear as consumers may have different reasons to doubt the green credentials of different materials. These may relate to recyclability, reusability or the energy required for manufacturing and distribution. The likely gaps among consumers in understanding the full lifecycle of packaging is important not only for those companies that produce and use these materials but also for the development of any future strategies aimed at reducing the environmental impact of packaging. Campaigns to reduce the use of plastics are given impetus by the strength of public opinion and the success of alternative solutions depends on how well they are accepted by consumers.

However, these results are only an indication of current consumer opinion and it is important to understand more about how those opinions are formed and also how it translates into actual decisions and behaviour.



How environmentally friendly do you think these materials are? (1= not at all environmentally friendly; 7= very environmentally friendly)

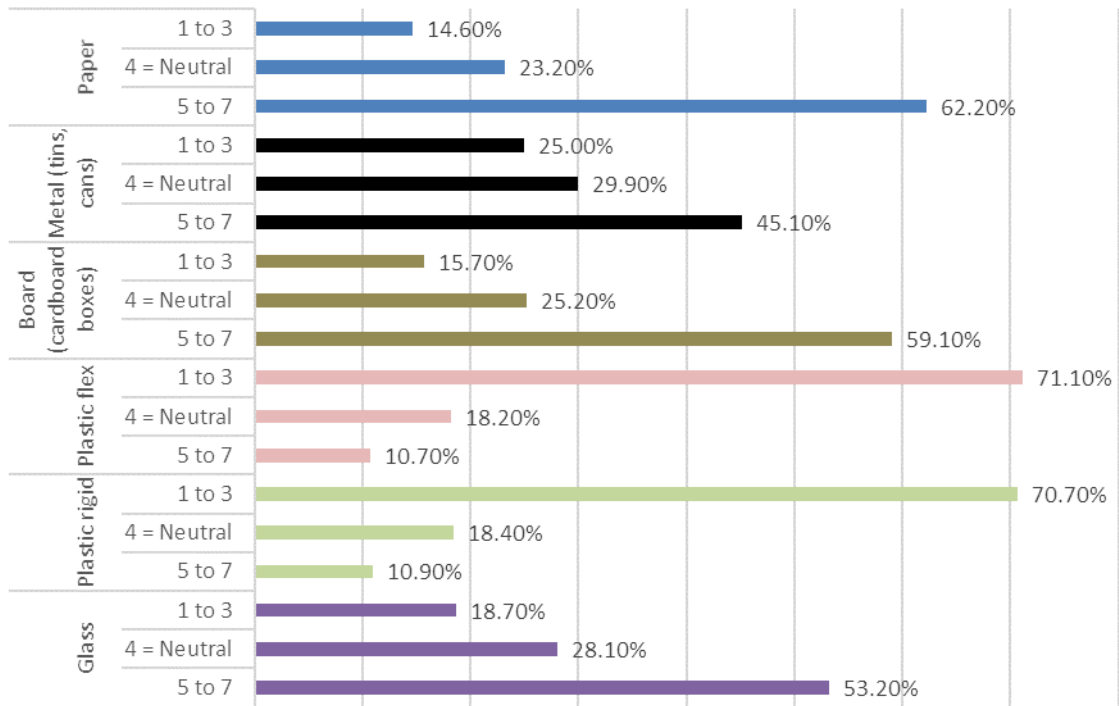


Image: Courtesy of [www.bonairturtles.org](http://www.bonairturtles.org)

# Shopping and Recycling Behaviour

Our research on environmental attitudes and perceptions of packaging has so far suggested that most people say they care for the environment and see various environmental issues as being very important. These views appear to be hardening to the extent that people are trying to improve their own environmental impact and are expecting more of retailers and manufacturers. The question is how much will these evolving attitudes translate into changes in consumer behaviour? This is akin to the classic consumer question of when does a viewpoint turn into an action? From the sustainability perspective, this means: will consumers prioritise what they see as more environmentally friendly packaging when they are shopping and to what lengths will they go to ensure the packaging waste is disposed of appropriately?

Eco-friendly products often have an associated cost, at least in the minds of consumers. This suggests a trade-off between cost and strength of feeling about the environment which could help to explain the apparent “hiatus between pro-environmental attitudes and ecological behaviours”.<sup>18</sup> Research by Sirieix and others on consumers’ perceptions of sustainable food labels notes that consumers do not necessarily act on sustainability values and suggests that knowledge is “a precursor to action in the context of adopting new behaviours”. They contend that “consumers need to be aware of an issue, and believe that it has some relevance to society and to themselves personally before they can develop an intention to act, and then act”.<sup>19</sup> Moral reasoning may only occur in choice of product packaging when environmental impacts are perceived considerable and no other characteristics (e.g. a high price) are seen as equally important.<sup>20</sup>

The idea that choices always take place within a particular context is key to addressing the question of how attitudes transfer into behaviour. Monetary costs, time, complexity and inconvenience can affect behaviours which is why making recycling easy may have a bigger impact on people’s recycling behaviour than their environmental attitudes.<sup>21</sup> Research by Rokka and Uusitalo suggests that “even the most environment-friendly consumers do not choose products or services merely on the basis of their environmental aspects. Rather, the choice is always a multi-attribute choice where the consumer has to trade-off between various product attributes”.<sup>22</sup> This choice-based approach offers a segmented understanding of consumer insights which identifies a large group of people (about a third of consumers) who favour environmentally labelled packaging as most important criteria in their product choice.

Rokka and Uusitalo also cite social norms as an important influence on attitudes, arguing that “information about how other people actually behave, and about the social benefits of behaving according to the social norm, is needed to encourage consumers to collaborate. If a consumer learns that the majority of other consumers avoid buying non-recyclable bottles and recycle bottles, the consumer is more likely to adopt that kind of behaviour”.<sup>23</sup> It is worth monitoring such developments as indicators of changing behaviour. In addition, Rokka and Uusitalo suggest that marketers target what is clearly a sizable market of environmentally sensitive consumers, an endeavour which is likely have further impact on social norms.

## Recycling behaviour

The reported waste disposal behaviour of the survey respondents offers some insight into how people perceive different waste materials and whether they dispose of them according to the existing guidance and infrastructure. These results can only be indicative because of variations in local waste systems and also the somewhat generic headings that were necessary for this question. For example, not all rigid or flexible plastics are currently collected or recyclable and not all food waste is compostable. With this taken into consideration, the results for the general population are, arguably, as expected with paper (82%) and cardboard (80%), followed by metal (77%), the materials most likely to be put into the recycling bin. Flexible plastic (56%) was the material most likely to be put into general waste, reflecting the many films and bags that are not currently recycled in the UK.

### *A majority of consumers reported they recycled, especially plastic*

Food waste (38%) had the next highest proportion of people saying that they dispose of it using the general waste bin, with more people use that option than using a compost bin. This could be an area where a greater degree of change could be encouraged in order to reduce the impact of food waste on landfill. In addition, more than a fifth of respondents said that they put food waste into the recycling bin. This is most likely to be people living in areas where food waste is collected by local authorities. Looking at the regional breakdown of responses supports this view as there is considerable variation in the numbers of people saying they dispose of food this way. While 42 per cent of respondents in Wales said they recycled food waste (plus 35% in both Scotland and North West England), just 6 per cent of people do this in both the East Midlands and

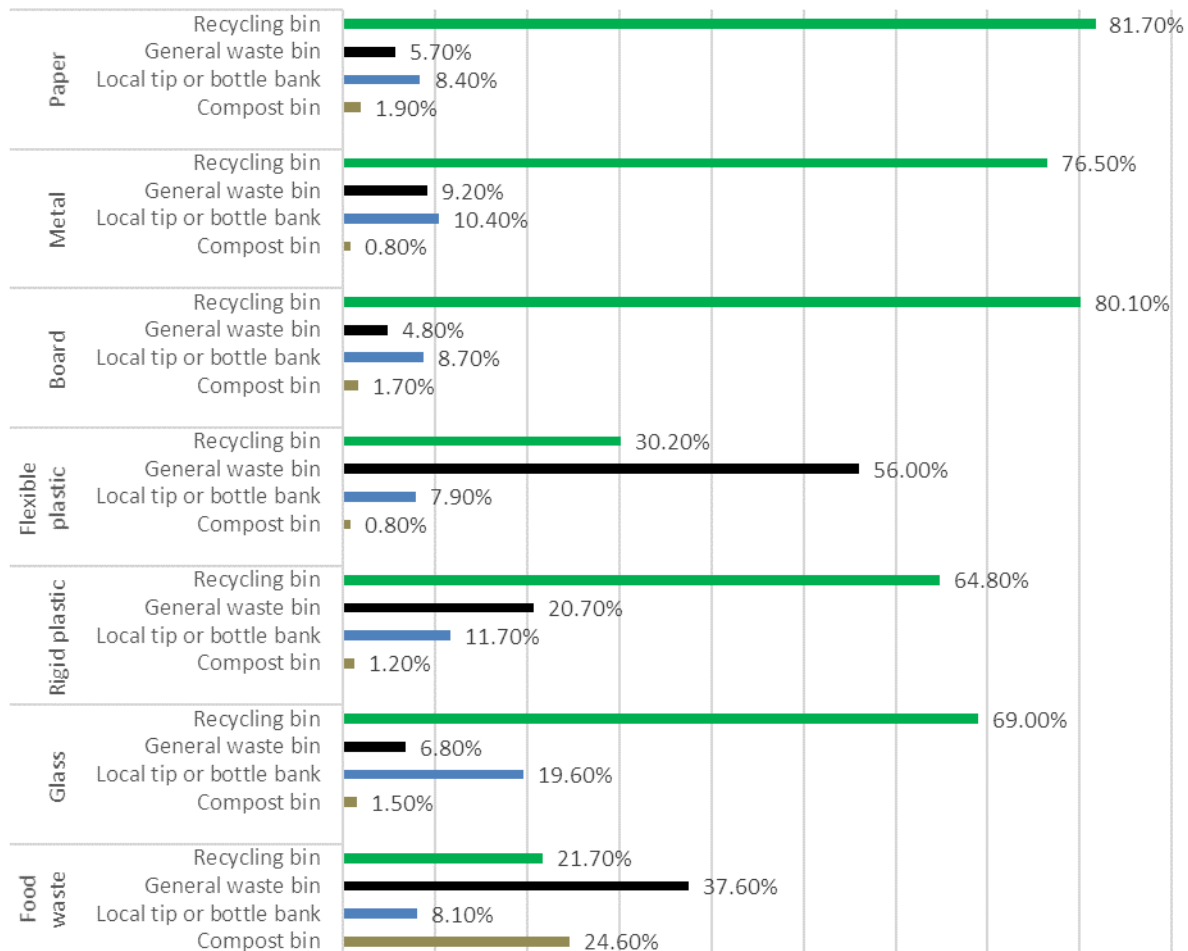
18 Magnier, L. and Crie, D. (2015) ‘Communicating packaging eco-friendliness: An exploration of consumers’ perceptions of eco-designed packaging’, *International Journal of Retail & Distribution Management*, 43(4/5), pp.350-366.

19 Sirieix, L. et al (2013) ‘Consumers’ perceptions of individual and combined sustainable food labels: a UK pilot investigation’, *International Journal of Consumer Studies*, 37, pp.143-151.

20 Thøgersen, J. (1999) ‘The ethical consumer. Moral norms and packaging choice’, *Journal of Consumer Psychology*, 22, pp.439–460.

*References continue on facing page*

## How do you dispose of the following?



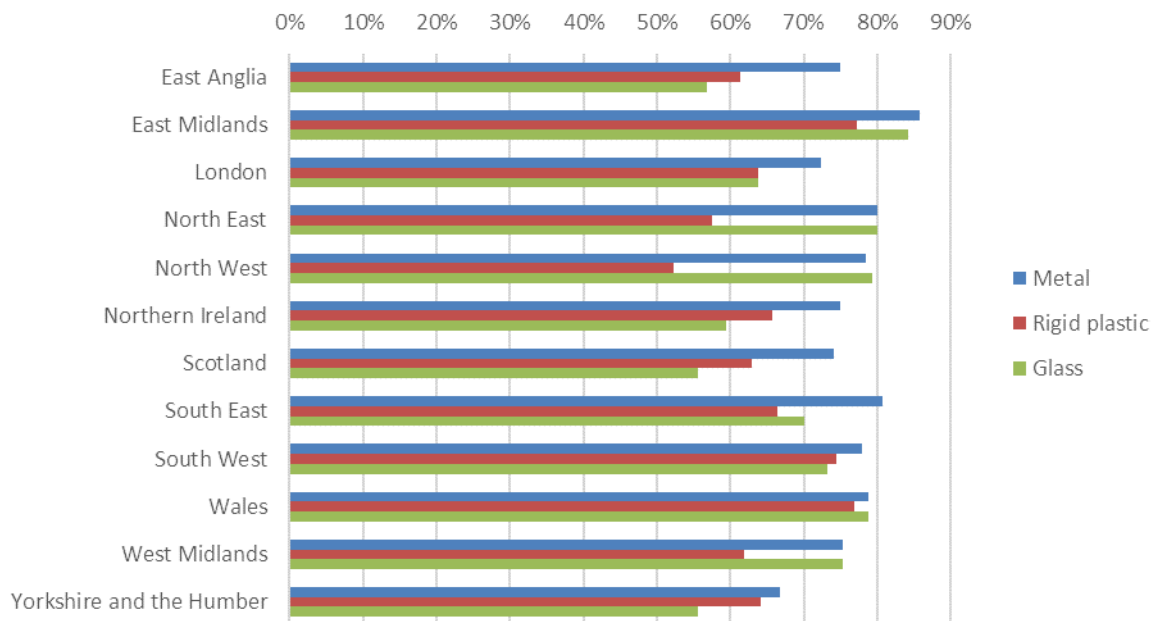
Yorkshire and the Humber (plus 7.5% in North East England). This regional difference can also be seen for packaging materials as the chart below demonstrates, focusing three selected materials – metal, rigid plastic and glass. Both rigid plastic (particularly polypropylene pots and boxes) and glass are recyclable materials that are not collected from the curb side by all local authorities and this could explain why a slightly lower percentage of people said that they put these in the recycling bin (65% for rigid plastic and 69% for glass). In the case of glass, much of the rest (20%) is disposed at local tips or bottle banks with only a small amount going into general waste (7%). However, almost 21% said that they dispose of rigid plastic in the general waste. Although there are some non-recyclable rigid formats, this is arguably a figure that could be a target for improvement, particularly in areas such as the North West (52%) and North East (58%) of England where recycling of rigid plastics is lowest, according to this survey.

The situation in the North West highlights the uneven recycling infrastructure as that region has among the highest proportions of people saying they put metal or glass in the recycling bin (78% and 79% respectively). Likewise, in the North East, 80 per cent of people gave this response for both metal and glass. In other areas, there was a larger difference between the percentages reporting their recycling bin use for metal and glass and rigid plastic also being recycled more than glass. In East Anglia, Northern Ireland, Scotland, South West England and Yorkshire and Humber glass was least recycled of the three materials, although in most cases use of local tips and bottle banks made up the difference. That was not the case for rigid plastic as those areas where use of the recycling bin was low did not have a corresponding higher rate of local tip/bottle bank use as was the case for regions with lower curbside recycling rates for glass.

22 Rokka and Uusitalo (2008), p.517

23 Rokka and Uusitalo (2008), p.518

## How do you dispose of the following materials (recycling bin)?



Patterns of waste disposal may also vary according to age. Looking at the chart below which presents use of the recycling bin for each material, there is a similar pattern for paper, metal and cardboard – the materials with the highest reported rates of recycling bin use. Rates of recycling bin use tended to be progressively higher for each group with the highest rates of recycling bin use for those three materials among the 55 years and older age group (88% for paper, 85% for metal and 87% for cardboard).

That pattern is not, however, matched for plastic. For rigid plastic, reported use of the recycling bin was fairly even between the age groups, ranging from 61 per cent (25-34 year olds) to just over 66 per cent (55+). For flexible plastic, there were again very similar rates of response as 27-28 per cent of 25-34, 45-54 and 55+ people responded this way. A higher proportion of 18-24 year olds and 35-44 year olds said they put flexible plastic in the recycling bin (38% for both age groups).

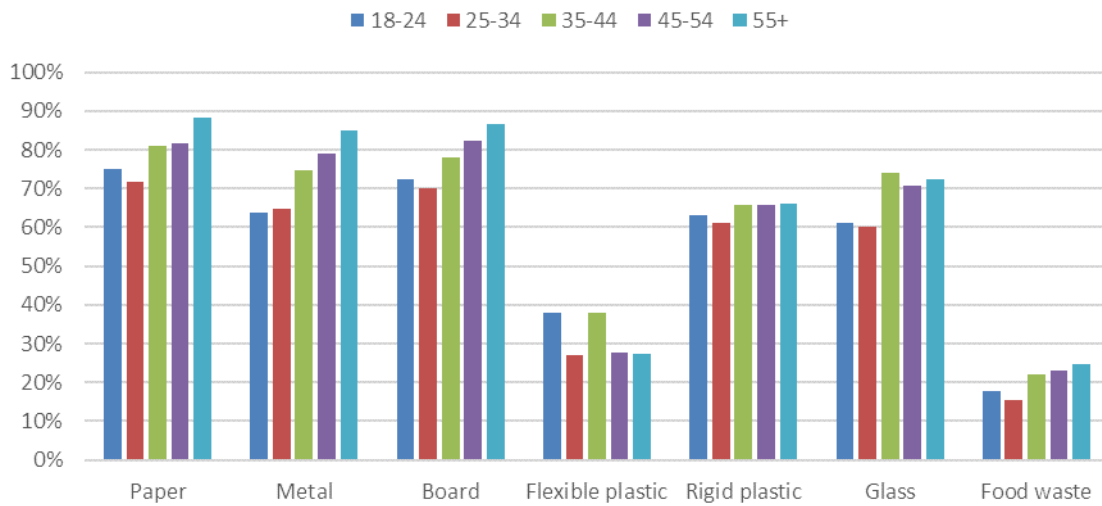
Use of the local tip or bottle bank had less uniformity according to age group. The oldest group (55+) did not lead the way for this waste disposal option as much as for the recycling bin and the youngest group (18-24) were among

the highest users of local tips and bottle banks for most materials. The youngest group were mostly likely to use these facilities for disposing of paper and metal and second most likely to dispose of glass this way, after the 55+ age group (21.3% compared with 21.4% respectively).

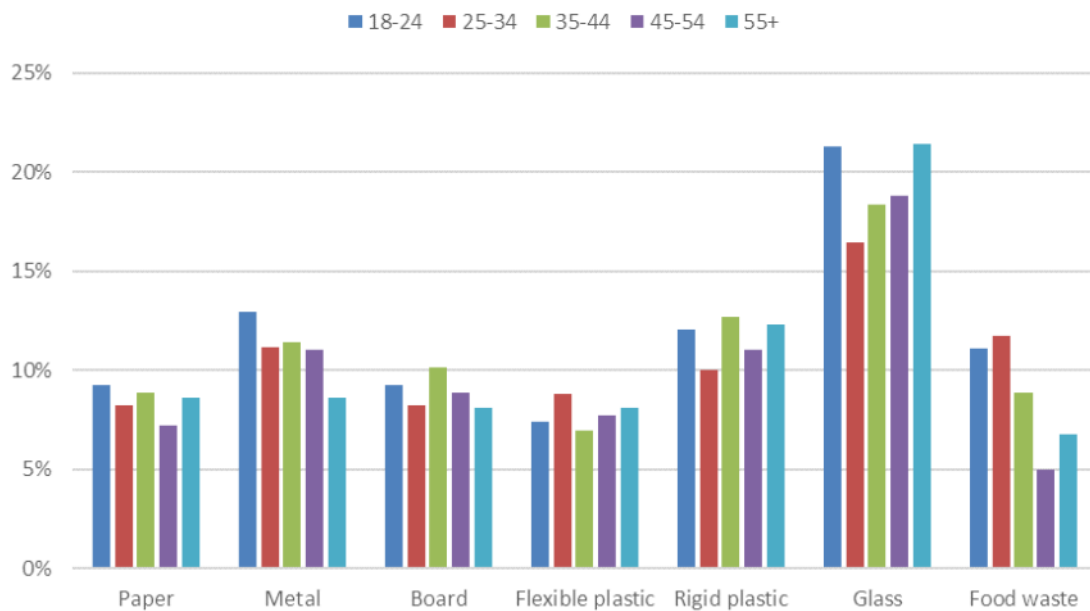
As stated above, these figures can only be indicative of waste disposal behaviour as it is difficult to survey specific local situations and categorisation of materials. However, it does highlight differences in the habitual disposal of various packaging materials, clear regional differences in recycling rates and also some variation in behaviour between age groups. All of these issues suggest that areas of policy or targeting of communications that could influence behaviour and improve optimal disposal of each type of material.



### How do you dispose of the following? (recycling bin, by age group)



### How do you dispose of the following? (local tip or bottle bank, by age group)





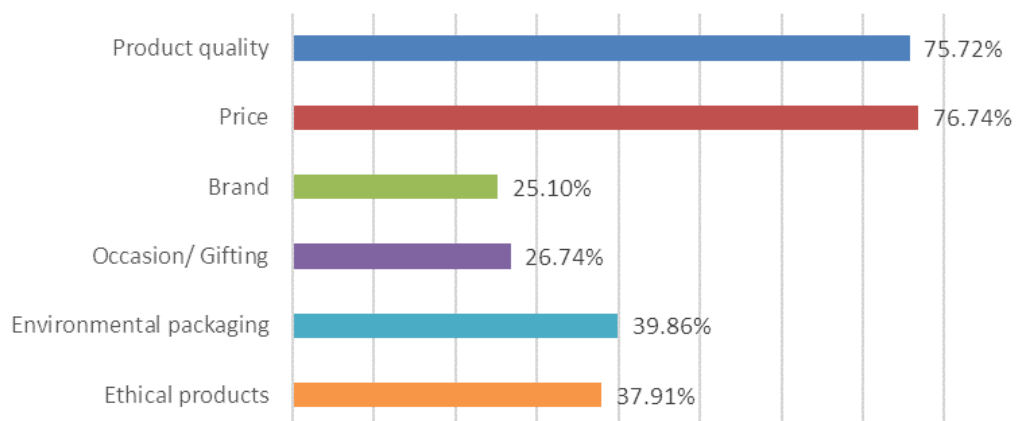
## The role of packaging in grocery shopping

Having established that consumers have strong views on the environment, with many stating that multiple environmental issues, not least ocean plastic pollution, are important or very important, further research is needed to see how that translates into shopping attitudes and behaviour. The survey sought to establish the importance of environment alongside the other key considerations when shopping for groceries. As the chart below indicates, price and product quality are still comfortably the most important two factors in grocery shopping (77% and 76% answering with important or very important for price and product quality respectively). However, 'environmental packaging' had the next highest percentage (40%) of people saying that this was either an important or very important factor.

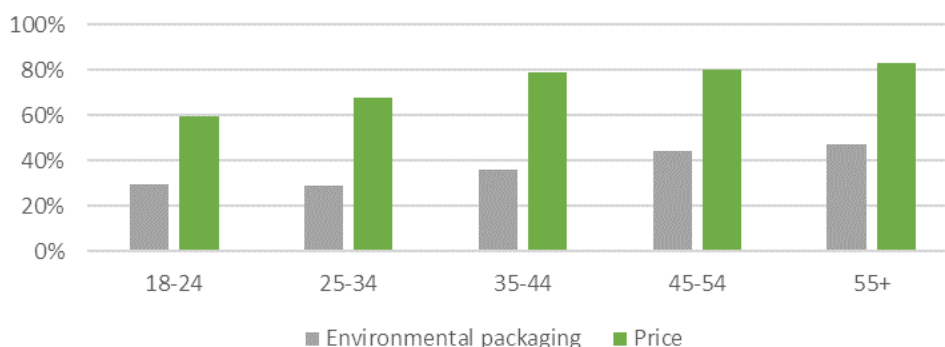
Looking at grocery shopping factors by age group, it is clear that the older age groups were more likely to say that the suggested factors were important. This is the case for environmental packaging with around 45 per cent of the 45-54 and 55+ age groups saying it was either important or very important, compared with 36 per cent of the 35-44 age group and less than 30 per cent for the youngest two age groups. This does not necessarily mean that the older age groups are more likely to prioritise environmental packaging as they also expressed stronger feelings about the importance of price and produce quality than the younger groups.

***Product quality (75.72%) and price (76.74%) are still the main influencers of shopping habits, followed by environmental packaging (39.86%)***

How important are the following factors in your grocery shopping? (Important/very important)



Importance of environmental packaging and price in grocery shopping, by age (important/very important)



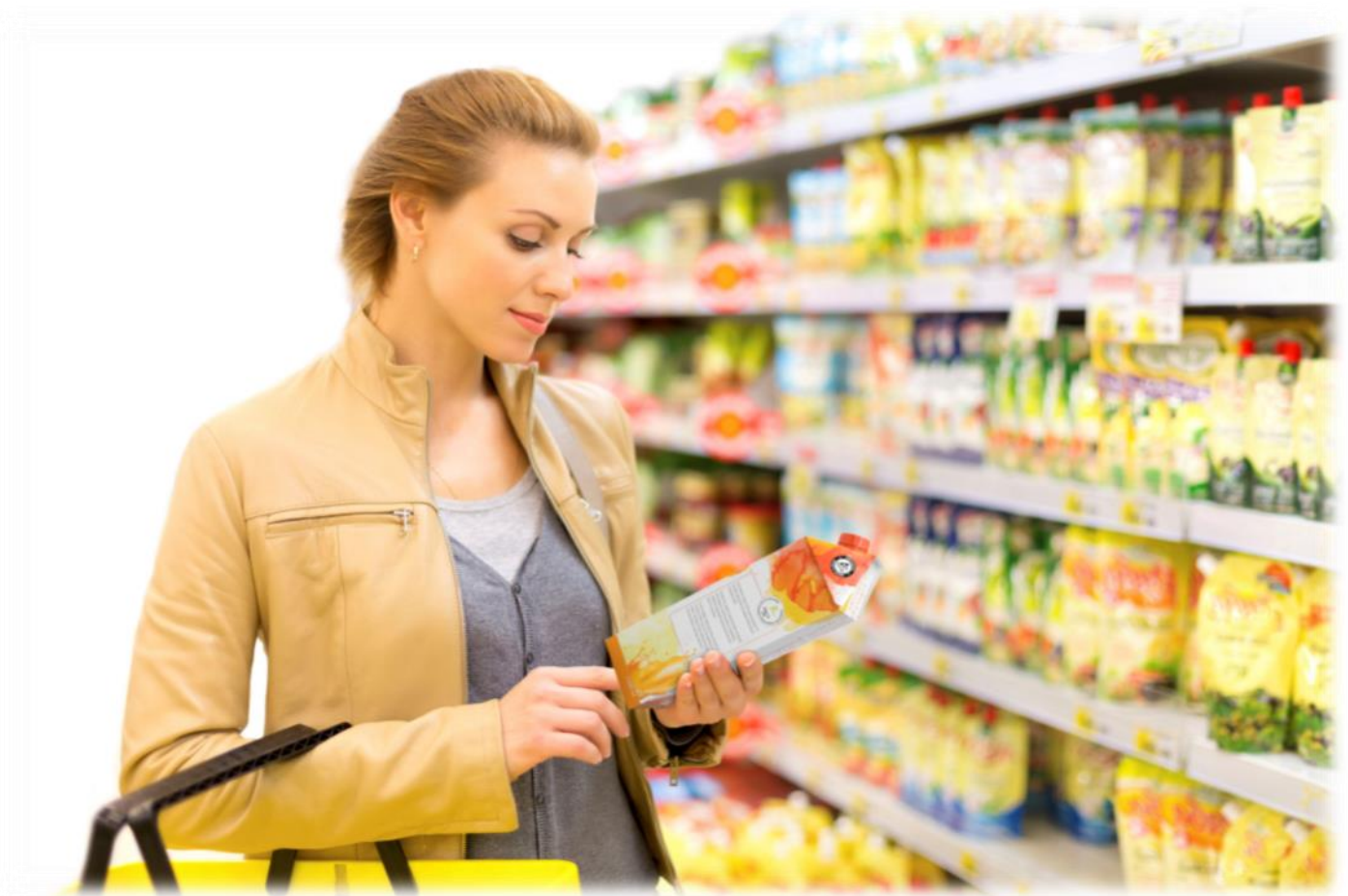
## Trade-off between packaging attributes

One of the central questions around the design of environmentally friendly packaging is the potential trade-off between green attributes and other elements such as functionality, decoration and information on the pack. Therefore, the survey included a question focusing specifically on packaging attributes. The most important attribute – judged by important/very important responses – was the best before/use by date (57%) followed by product information such as nutritional values or fair trade (44%). These are followed in importance by environmental information (such as recyclability or compostability) and pack functionality (39% and 38% respectively). Decorative/ aesthetic effects were considerably behind these other packaging factors with just 11 per cent of respondents saying this was either important or very important.

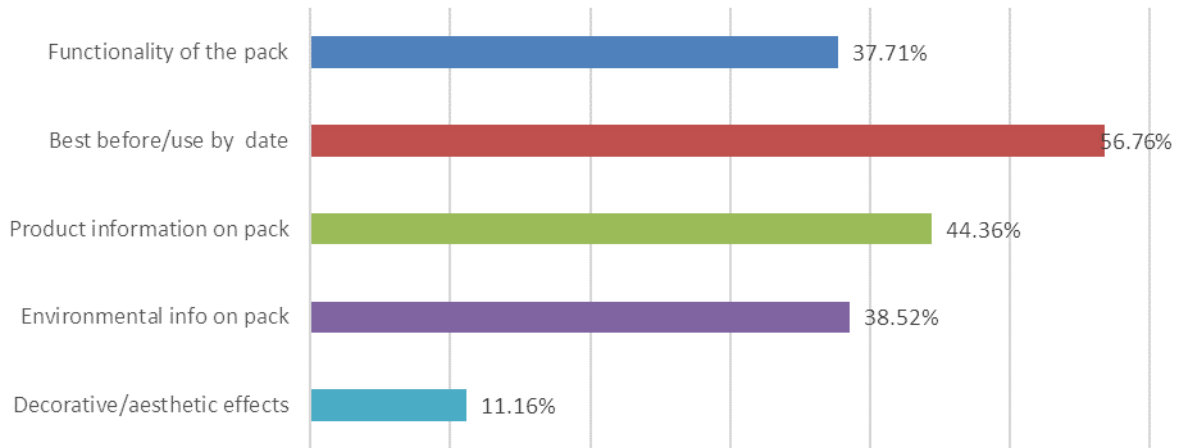
Arguably, the key trade-off here is between functionality and environment as the need for information is unchanging and not necessarily influenced by packaging material or format. This result suggests that environmental information and, therefore, the environmental credentials of the pack, are considered to be equally important as functionality.

### *Environmental credentials are considered equally important to functionality*

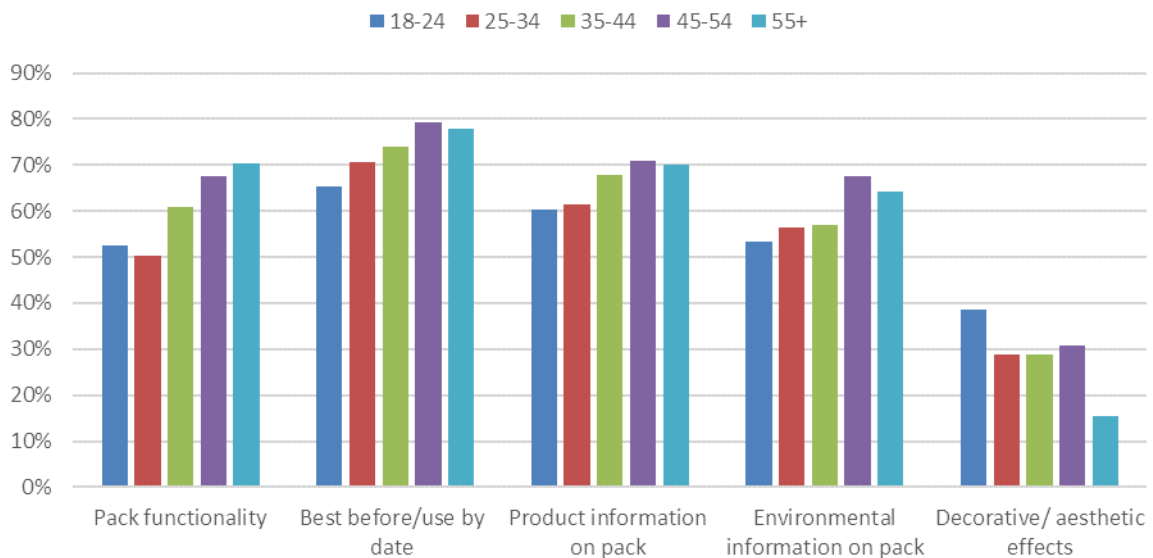
Responses by age suggest a tendency for stronger views among older age groups as more 45-54 and 55+ year olds saw the various attributes as important than the other age groups. This is with the exception of decorative/aesthetic effects. as more 18-24 year olds (39%) saw this as important than any other age group and just 16 per cent felt this way among those aged 55+. In the specific comparison between pack functionality and environmental information, there were slight differences within some age groups. The more significant differences were among 25-34 year olds, 50 per cent of whom saw functionality as important compared with 56 per cent for environmental information. Conversely, more 35-44 (61%) and 55+ (70 per cent) year olds saw functionality as important than compared with environmental information (57% and 64% respectively). For the other two age groups (18-24 and 45-54 year olds), there was very little difference in responses on these two attributes.



### Importance of packaging factors (Important/very important)



### Importance of packaging factors, by age (slightly important, important or very important)



# Environmental Packaging Strategies

## Strategies and communication

Insight into how attitudes are formed and transferred into behaviours provides the opportunity to consider what strategies may work for encouraging pro-environmental behaviour, along with a stronger appreciation among consumers of the ecological credentials of different packaging materials and formats. In terms of communication through packaging, we know that a pack's shape, texture, colour, images and text can be used to convey different ideas, messages, flavours and senses. The two main streams of consumer packaging literature – holistic and analytical – also remind us of how both the semiotics of a package's 'gestalt' and individual characteristics which are considered independently can be used to create a desired effect.<sup>24</sup>

This can be translated into ways of communicating environmental credentials if the right cues can be identified along with comprehension of how consumers perceive the various labels and standards. Taking the analytical approach, Magnier and Crie, in exploring consumers' perceptions of eco-designed packaging, used an innovative interview method to investigate attitudes towards packaging across different FMCG categories. The technique allowed consumers to express their deep-seated motives shaping their attitudes and consumption behaviours. Three categories of packaging cues were identified – structural, graphical/iconic and verbal/informational which were interpreted in sustainability terms as follows:

- Structural cues relate to reduction of packaging, choice of materials and the re-usability of the pack.
- Graphical cues consist of colours, photographs, images and logos. Logos are included as graphical cues because they "are icons aiming at creating heuristics in consumers' mind", although it is important that these are accompanied by added information to be fully understood
- Informational cues are concerned with environmental labelling, licensing agreements and environmental claims

Based on this research, Magnier and Crie recommended that in order to promote eco-designed packaging, brands can highlight the safety of natural materials, convenience

benefits and address negative perceptions with reassurance. Also, a focus on aesthetic appearance of eco-designed packages can aid that promotion and reassurance.

Further to this study, Magnier and Schoormans have looked at the interplay between visual appearance, verbal claims and environmental concerns.<sup>26</sup> Two projects manipulated the visual appearance and verbal sustainability claims that communicate eco-friendliness on detergent and mixed nuts packages. This was done to test the effect on consumer attitudes and purchase intention. They found that consumers' level of environmental concern influenced their responses to the visual appearance and verbal sustainability claims of packages. Low environmental concern consumers were sensitive to incongruence between visual appearance and verbal sustainability claims and led to negative responses. In contrast, those with higher environmental concerns not sensitive to incongruence and showed more positive responses.

Magnier and Schoormans suggest that consumers can only categorise packaging as being sustainable when the visual design elements clearly signal sustainability. They argue that "it is not always easy for consumers to understand that structures based on recycled materials are more ecologically friendly" and "they can easily be misunderstood because they look conventional". This is why verbal (the text on the package) sustainability claims are especially important as they highlight visual design elements that signal sustainability.<sup>27</sup>

The findings of these studies are supported by more recent research which focuses on the contextual cues that can influence consumers' judgments of environmental claims and green products. The idea of 'conceptual fluency' suggests that a colour that matches the content of a message makes the information easier to process, thereby increasing the appeal of the message. Somewhat obviously, green is the colour of choice for environmental messages but will only work when a green package also includes an environmental claim. Using the colour green in an attempt to 'green wash' will be unsuccessful as it is unlikely to influence consumers' environmental judgments of brands.<sup>28</sup>

24 Magnier, L. and Crie, D. (2015) 'Communicating packaging eco-friendliness: An exploration of consumers' perceptions of eco-designed packaging', *International Journal of Retail & Distribution Management*, 43(4/5), pp.350-366.

25 Magnier and Crie (2015), p.358

26 Magnier, L. and Schoormans, J. (2015) 'Consumer reactions to sustainable packaging: The interplay of visual appearance, verbal claim and environmental concern', *Journal of Environmental Psychology*, 44, pp.53-62.

27 Magnier and Schoormans (2015), p.54

28 Seo, J. and Scammon, D.L. (2017) 'Do green packages lead to misperceptions? The influence of package colors on consumers' perceptions of brands with environmental claims', *Marketing Letters*, 28, pp.357-369.

Labels and logos are key tools for communicating the production values of a product. Despite this, it is not always clear how they are interpreted by consumers. Research by Sirieix and others looking at perceptions of labels for various values and standards, including fair trade, organic and sustainability has found that consumers are positive about labels but with some limitations. People are often sceptical about unfamiliar labels claims which may be seen as too general, such as 'climate friendly'.<sup>29</sup> Consumers need time to become aware of labels and understand what they mean and how to use them. A logo may provide a general sense of what it is about but consumers often do have complete information about its full meaning. Issues that were identified in focus groups that discussed various labels include:

- A need for information to explain labels when familiarity is anything less than very high.
- A need to address the potential negative impact of brand presence which can create a perception of 'green washing'.
- A need to tackle the 'band-wagon' perception when, for example, single aspects of sustainability are the focus while others are ignored.
- Greater familiarity with logos or endorsing institutions evokes greater trust.
- Consumers prefer standardized formats that permit comparisons between products.
- Where multiple labels appear on a pack, they need to fit together in the minds of consumers.

A key issue was the fit between labels and brand. The researchers recommended that companies must counter the image of green washing by tackling the scepticism head-on. Acknowledging consumers' concerns and explaining why the cause is important can help to build a brand image that more closely matches the values embodied in the label.

Ultimately, ensuring trust in a product requires both responsibility and consistency. Jerzyk's work on the design of sustainable packaging found that the "variety of markings and environmental messages appearing on the packaging often produces incomprehension or even suspicion among buyers" increasing the likelihood of consumers being confused in their decision making.<sup>30</sup> Therefore, our survey has also looked at consumers' perceptions of labels and how they use them in their shopping and recycling behaviour.

## Responses on labels and local recycling

The final part of the survey focused on the packaging strategies that can help or influence people in their decisions and recycling behaviour. In particular, a series of questions were included on the perceptions and use of labels on packaging that provide information on its recyclability. The purpose of this was to find out how helpful people find these labels, at what point in the product lifecycle they use them and also to draw some wider conclusions and what it suggests about the role recycling plays in the everyday lives of consumers.

*While a majority of consumers say they find recycling labels confusing, most consumers also find them helpful*



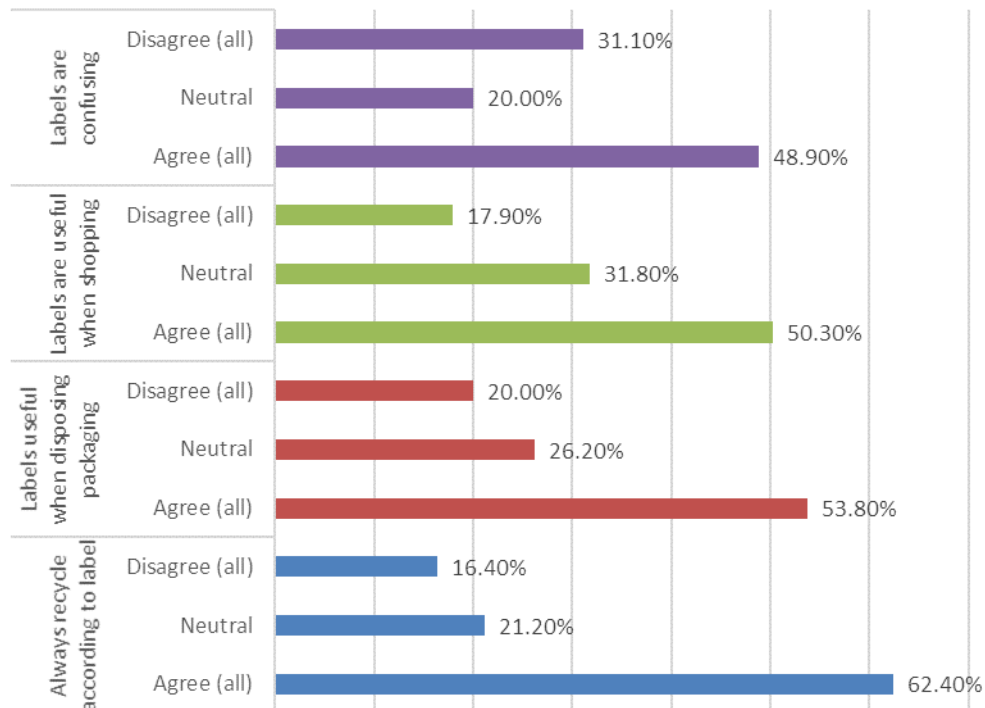
The first finding here is that almost half of respondents (49%) agreed, to some extent, that recycling labels on grocery packaging are confusing. Among the two oldest age groups, over 54% agreed with this statement. This simple finding is arguably a problem to be addressed immediately by industry and regulators.

29 Sirieix, L. et al (2013) 'Consumers' perceptions of individual and combined sustainable food labels: a UK pilot investigation', International Journal of Consumer Studies, 37, pp.143-151.

30 Jerzyk (2016), pp.708-9



## Responses to recycling labels



## Find recycling labels confusing, by age

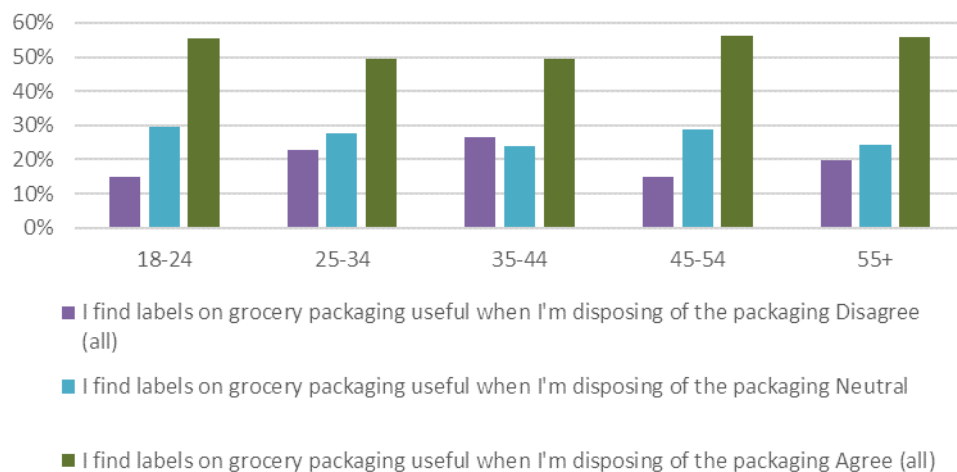


Despite a large proportion of respondents saying the labels are confusing, at least half agreed that recycling labels are useful, either when shopping or disposing of packaging. Additionally, 62 per cent agreed that they always recycle according to the label. There was little variation on these questions between the age groups, although people in the older age groups were more likely to agree that they recycle according to the information on the pack (70% of over 55s compared with 54% of 18-24s and 52% of 25-34s).

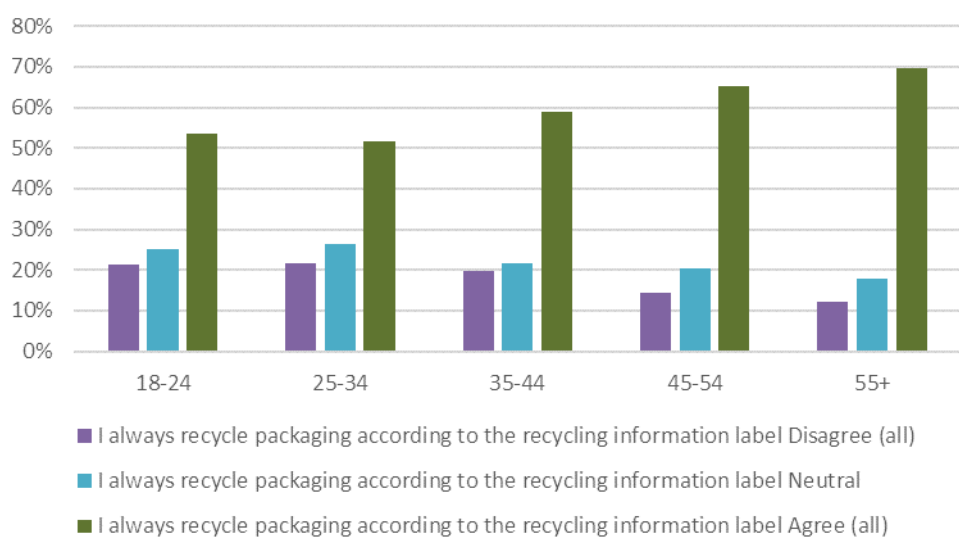
### Find recycling labels useful when shopping, by age



### Find recycling labels useful when disposing of packaging, by age



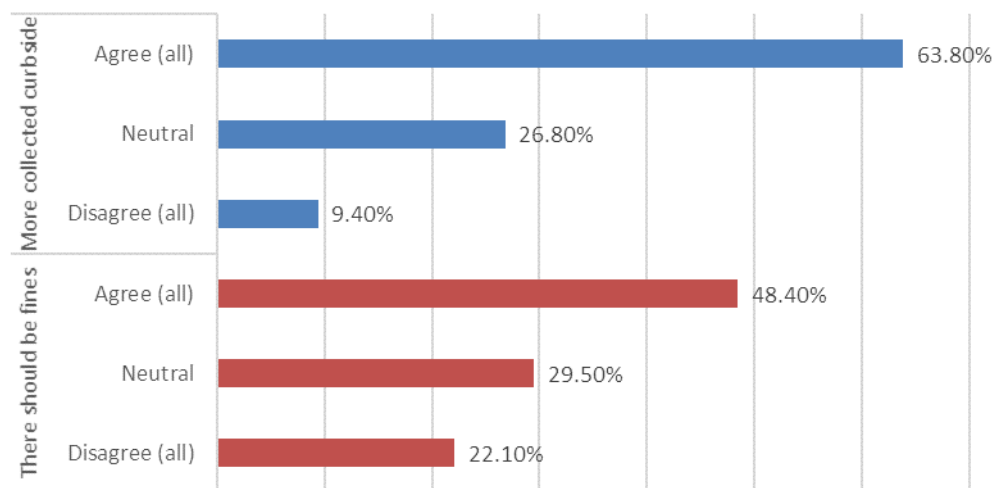
### Recycling according to the information on the pack





Finally, two questions on what consumers would like to see changed about local waste management systems revealed some interesting results. Firstly, 64 per cent of respondents agreed that they would like more materials to be collected curb side, with less than 10 per cent disagreeing with this proposition. Secondly, almost half (48%) agreed with the idea of fining people who do not recycle, with 22 per cent disagreeing and 30 per cent neutral on this idea.

### Views on local recycling



The importance and effectiveness of communication through packaging is well established. It is clear that it is equally important with regard to environmental communication. Such communication can be through the structure and choice of materials, through graphics in the use of images and logos and informational in terms of the claims about the package. Previous research has found that using these elements in combination can help to ensure trust and to avoid the perception of green washing. Our survey has shown, however, that there is still considerable confusion about environmental labels on packaging. This suggests that improvements need to be made in providing supporting information and making messages congruent with brand and the overall pack design.

Consumers clearly use these labels. Most have told us that they find them useful when both shopping and recycling. This is no guarantee of how influential environmental labels can be but it does show that people look at them. Along with the views expressed on local recycling, it appears that most people do care enough about the environment to want recycling to be easier and for systems to work better in general. Such findings show how attitudes can transfer into behaviour.

# Conclusions

The current public debate on packaging and the environment calls for effective, accurate communication strategies. Whether it is engaging in discourse or designing sustainable solutions, such communication requires a strong understanding of the attitudes, perceptions and likely behaviour of consumers. Plenty of past research indicates that strong opinions on the environment do not always translate into positive individual behaviour. However, attitudes appear to be hardening as a result of high profile evidence of environmental harm, as suggested by our findings on the importance of ocean plastic pollution to many people. This could mean that consumers are becoming more likely to practice more pro-environmental shopping and waste disposal.

As we learn more about how things are changing, it has been helpful to look at how packaging is currently perceived. This is not easy to determine as different research methods yield somewhat differing perspectives. However, the evidence collected here has shown the value of seeing environmental elements alongside other packaging features so that consumers can express what is important, what they must have and what is merely a desirable bonus. In particular, the relative importance of pack functionality versus environmental credentials has been a theme of much research. Some of this suggests that consumers want packaging with improved sustainability to retain the functionality of other packs. However, there is also evidence to suggest that the benefits of pack features, such as food preservation and safety, are often not appreciated by many. Our survey supports this view with some materials clearly not appreciated for their benefits as much as others.

Many consumers have also expressed their willingness to pay more for environmentally friendly packaging. Even if this is no guarantee of how people will actually respond, there does appear to be a large segment of the population for whom this is true. Successfully meeting the demands of that population

should lead to more innovation and greater scale to enable better environmental outcomes – a positive outlook for the industry.

Any innovations must also use what is known about communication through packaging. Scepticism must be tackled head-on by using multiple forms of communication to demonstrate brand commitment and to ensure all views are heard and respected in the current, intense public debate.

In summary, what is apparent from this survey is that there is a need for understanding the agenda of the mainstream media. This is not to say that new research on media agenda setting is necessary, because it is clear both from this survey and hundreds of academic studies that mainstream media do heavily influence views of their consumers. What is necessary is to establish where the agenda is coming from and who is precisely driving this agenda. While it is easy to state, as this survey has also demonstrated, that the BBC is heavily involved in the agenda on environment and packaging, it is not clear where respondents consider 'the BBC' to start, or the specific source of stories. In addition, there is a need for better understanding of communication strategies of the packaging industry and how these correspond with concerns expressed by the media and consumers (e.g. confusing labels, lack of clarity on how to recycle, etc.)

To this end, the Retail Institute has started a project meant to investigate the above issues. In this, the media agenda will be explored in detail, and the particular emphasis will be placed on the role of the press, as all academic research since 1962 up until the present day has demonstrated that press sets the agenda for TV and the public, thus effectively undermining the importance of trust in TV. In other words, while people may watch TV more than read the press, the agenda still usually originates from the press and the issues covered by the press then spill over to TV. The Retail Institute will thus conduct research on the UK press to establish where the agenda is coming from or how it came to the press, and specialist magazines will be analysed as these magazines are currently heavily involved in pushing the agenda on packaging further. In addition, public relations strategies of the plastics industry in the UK will be analysed, as well as responses from the supermarket industry, given the fact supermarkets are often targets from environmental and health activists. The report with these findings will be released in July 2019. These findings will then shed light on the agenda and the origin of the agenda, as well as offer public relations and communications recommendations for the packaging industry on how to target particular actors who are driving the agenda with their public relations and communication efforts.



**Thank you for reading.**

**The next Retail Institute Annual Report will be the  
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